

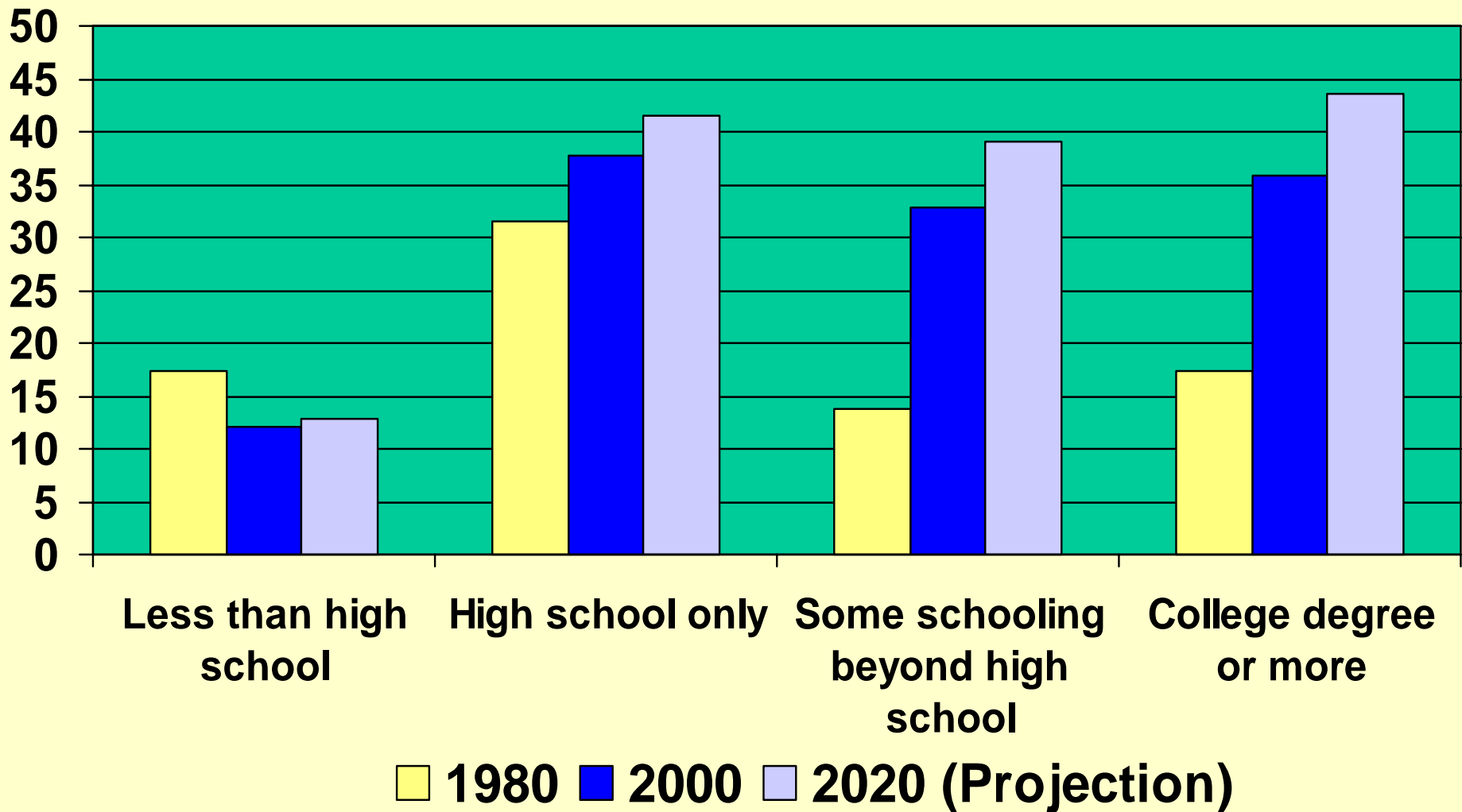
# Early Childhood Development: Economic Development with a High Public Return



**Rob Grunewald and Art Rolnick**  
**Federal Reserve Bank of Minneapolis**

# Educational Characteristics of the Labor Force

## Millions of Workers Age 25 and Over



Source: Ellwood (2001)

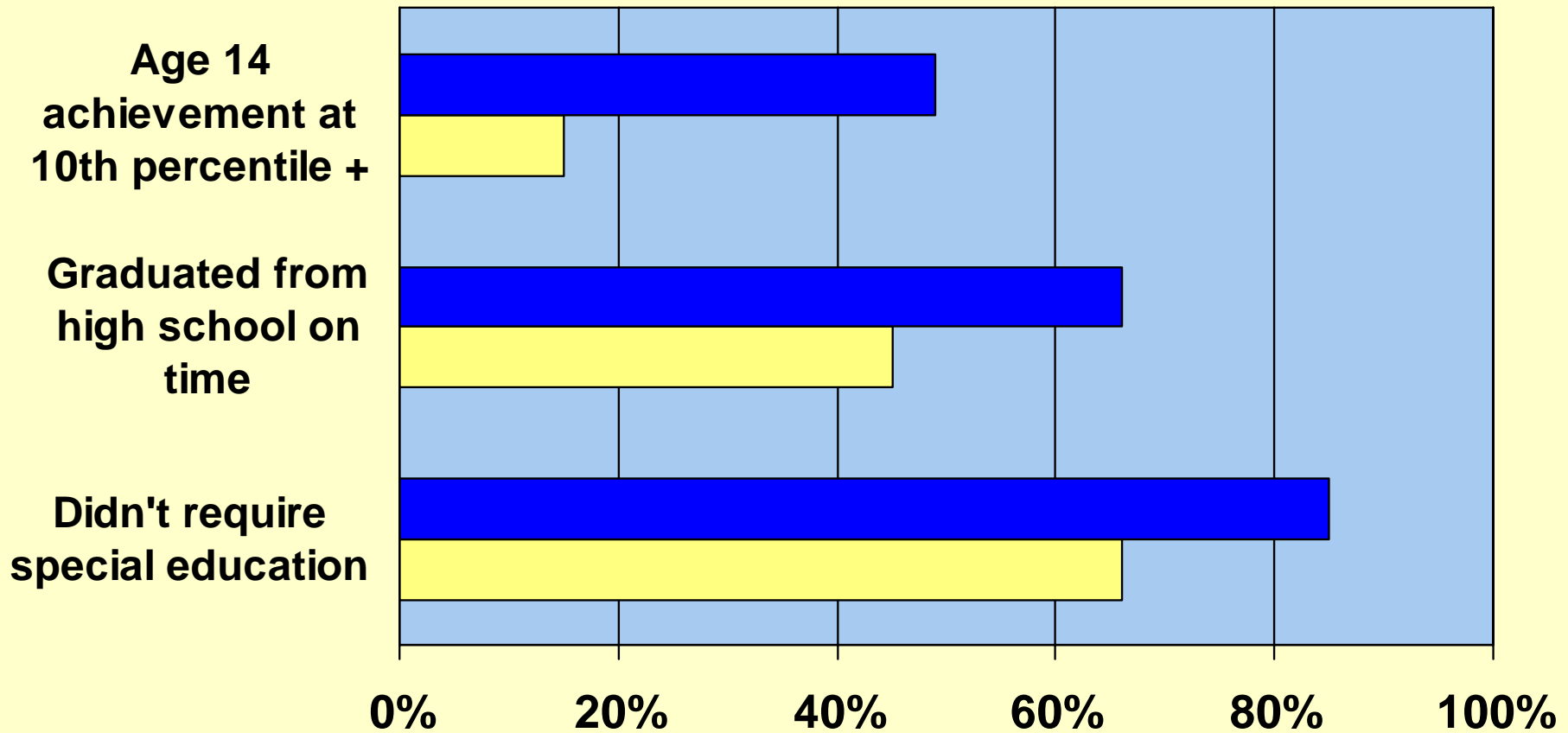
# High/Scope Study of Perry Preschool

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- In early 1960s, 123 children from low-income families in Ypsilanti, Mich.
- Children randomly selected to attend Perry or control group.
- High-quality program with well trained teachers, daily classroom sessions and weekly home visits.
- Tracked participants and control group through age 40.

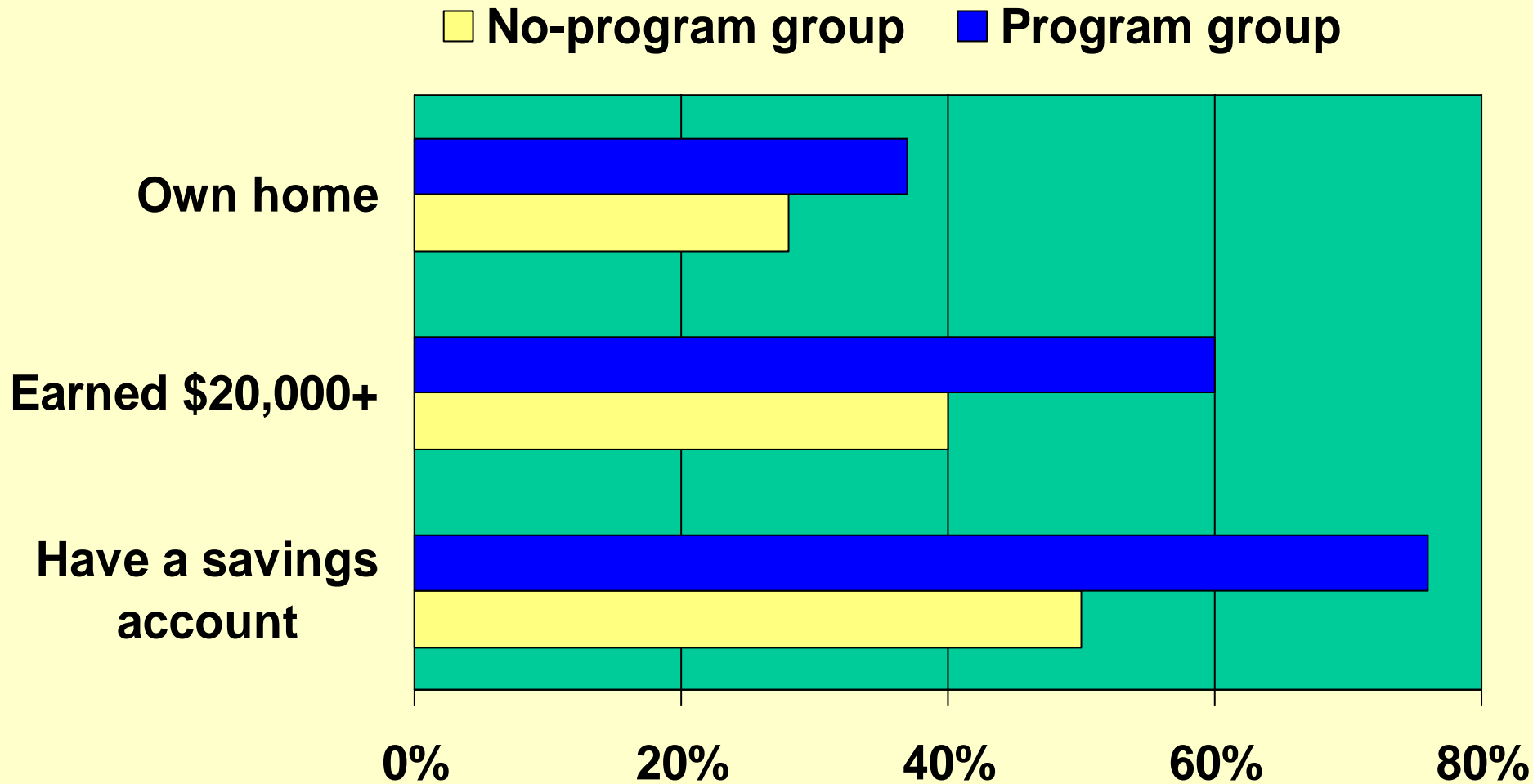
# Perry: Educational Effects

□ No-program group    ■ Program group



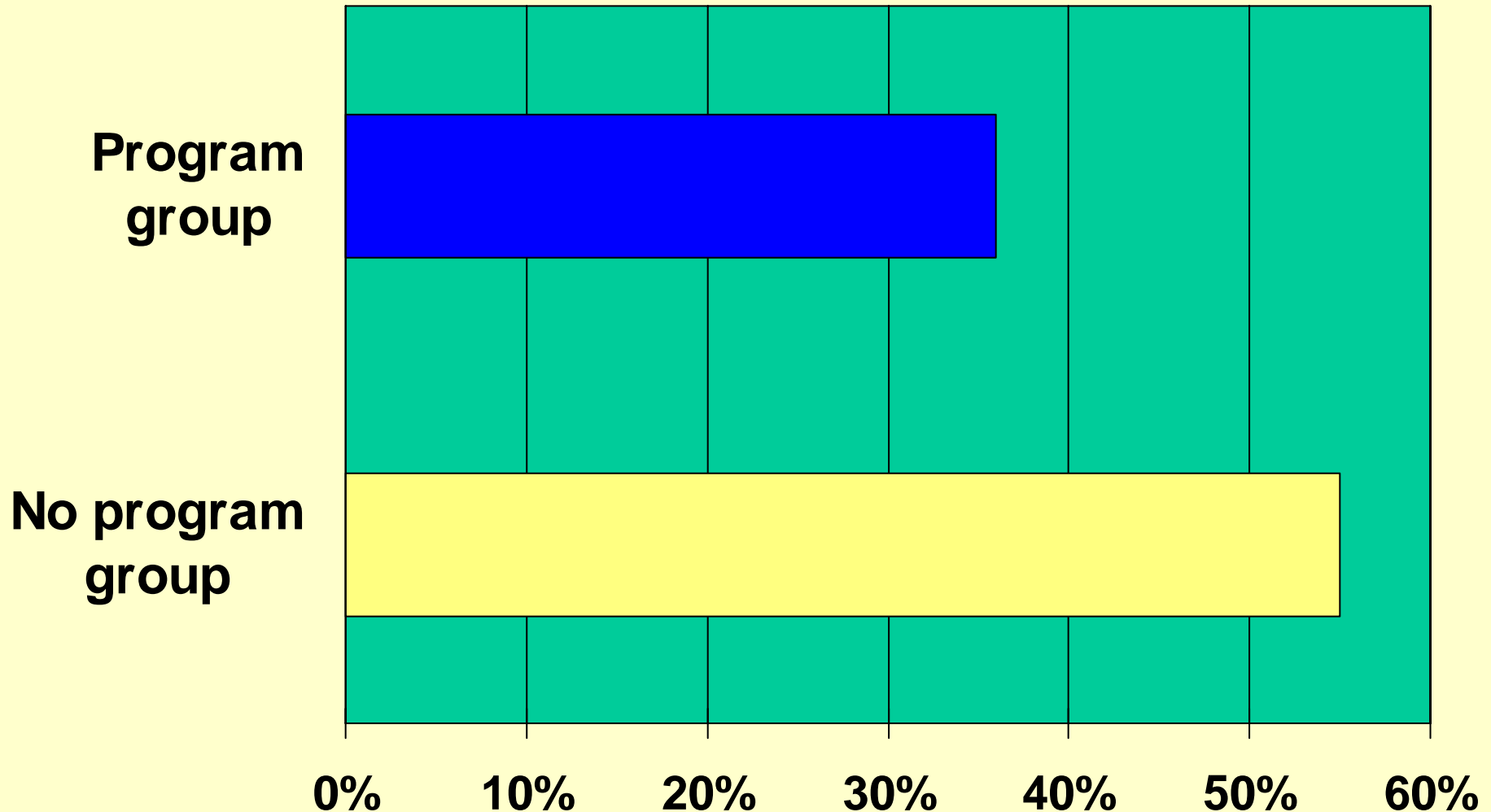
Source: High/Scope Educational Research Foundation

# Perry: Economic Effects at Age 40



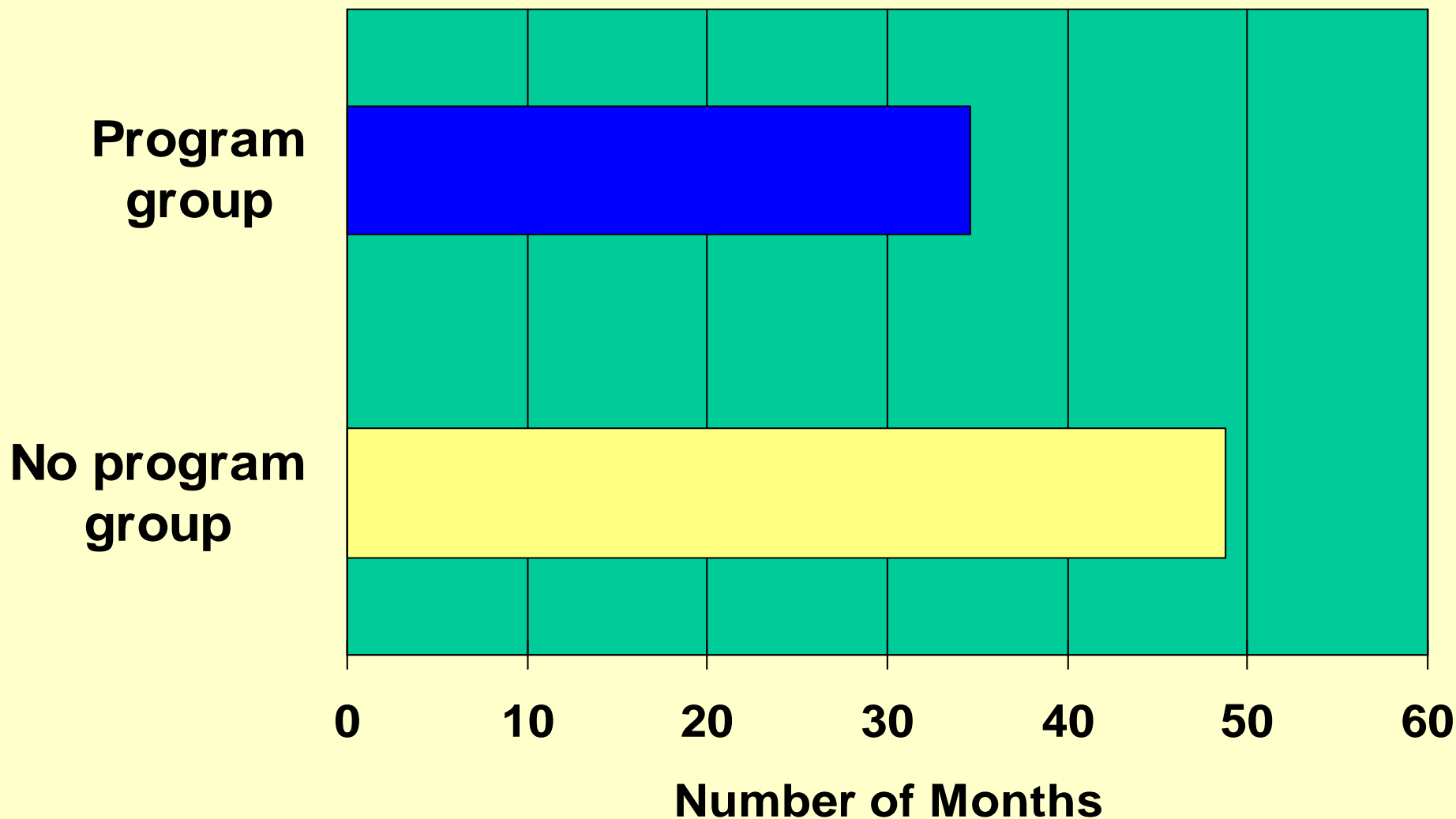
Source: High/Scope Educational Research Foundation

# Perry: Arrested 5 or More Times Before Age 40



Source: High/Scope Educational Research Foundation

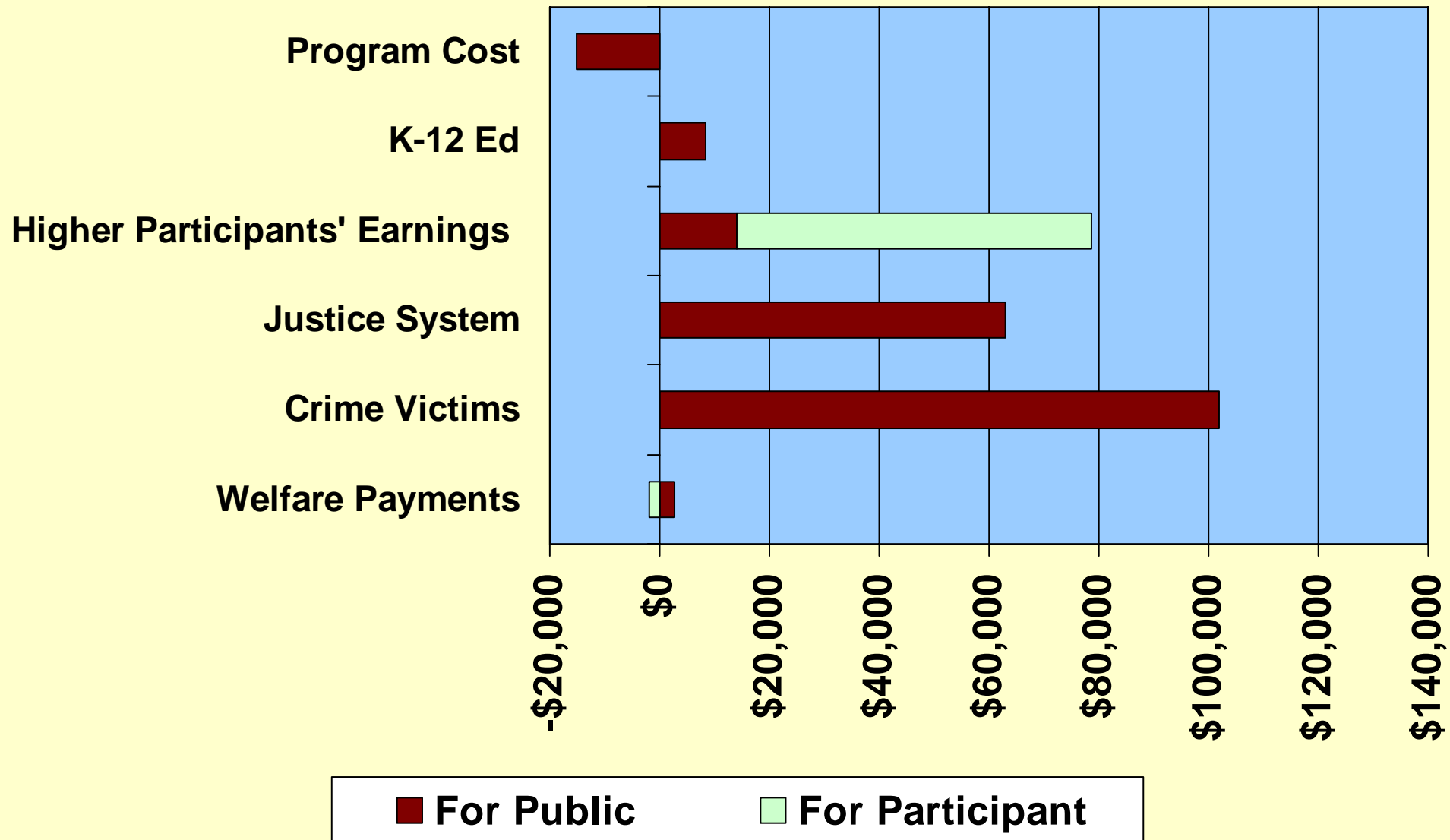
# Perry: Average Number of Months Served in Prison by Age 40



Source: High/Scope Educational Research Foundation

# Perry Preschool

## Costs and Benefits Over 62 Years





# **Perry Preschool — Estimated Return on Investment**

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- **Benefit-Cost Ratio = \$17 to \$1**
- **Annual Rate of Return = 18%**
- **Public Rate of Return = 16%**

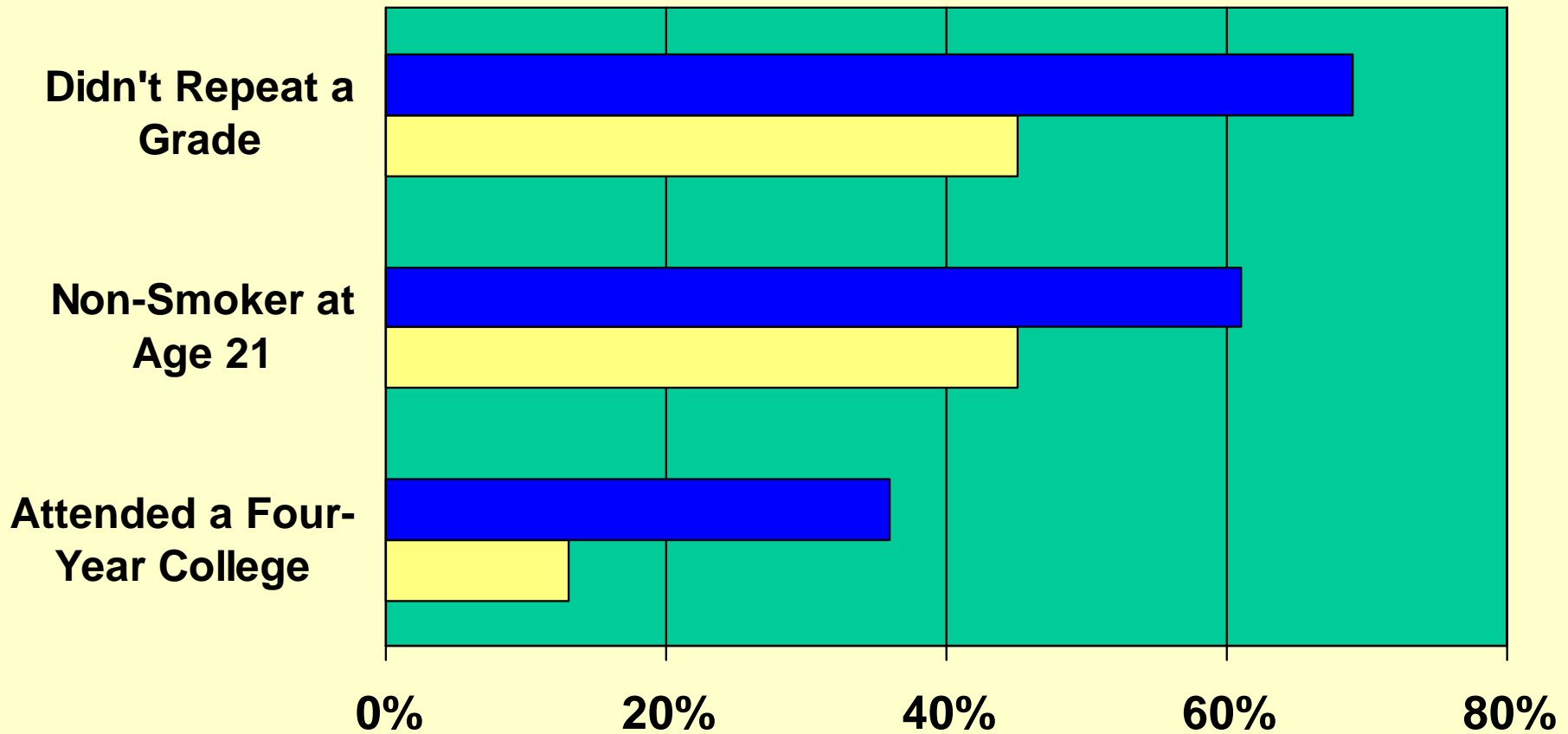
# Abecedarian, Educational Child Care

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*Full-day, year-round program near Chapel Hill, N.C. Children from low-income families were randomly selected to attend Abecedarian or control group.*

# Abecedarian: Educational and Health Effects

■ No-program group   ■ Program group



Source: Carolina Abecedarian Study

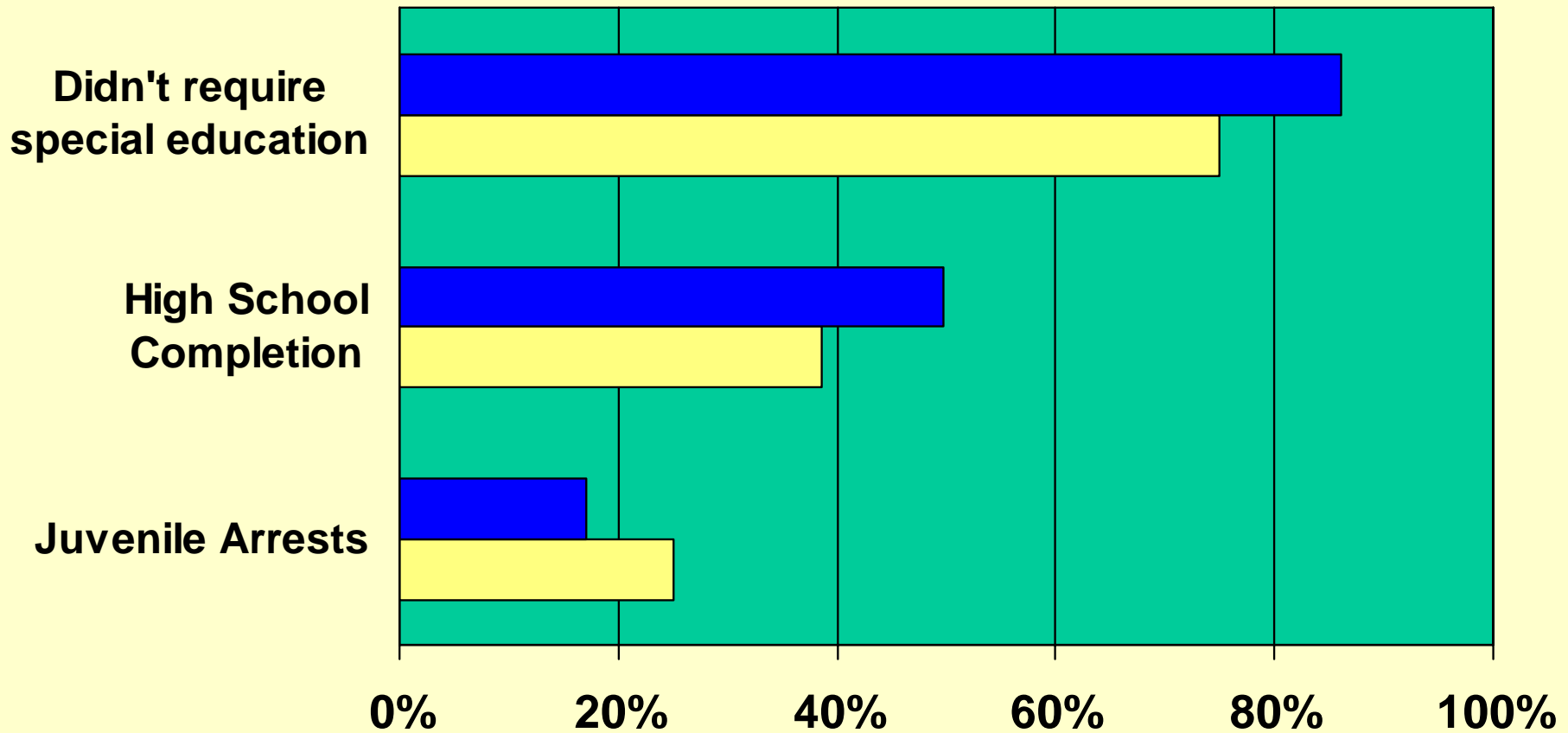
# Chicago Child-Parent Centers

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*Half-day, large-scale program in Chicago public schools. Comparison group was a random sample of eligible nonparticipants.*

# Chicago Child-Parent Centers

■ No-program group   ■ Program group



Source: Arthur Reynolds, et al.

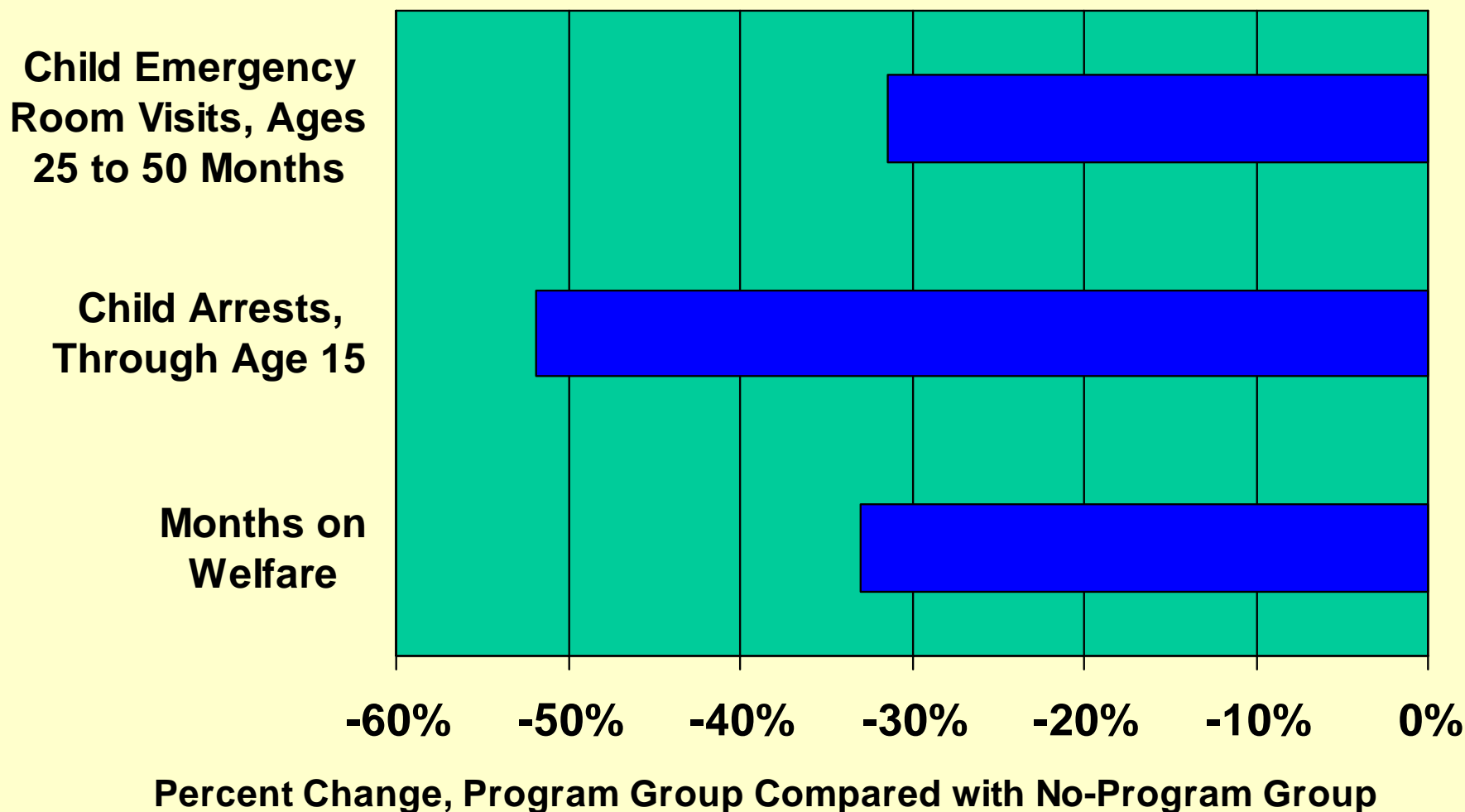
# Elmira Prenatal/Early Infancy Project

## Higher-Risk Families

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*Home visiting program by registered nurses for at-risk mothers, prenatal through first two years of child's life. Randomly selected participants were compared with a control group.*

# Elmira Prenatal/Early Infancy Project High-Risk Families



Source: David Olds, et al.

# **Benefit-Cost Ratios for Other Longitudinal Studies**

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- **Abecedarian Educational Child Care**
  - \$4 to \$1
- **Chicago-Child Parent**
  - \$7 to \$1
- **Elmira Prenatal/Early Infancy Project**
  - \$5 to \$1



# **Lessons Learned from Research**

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- **Invest in quality**
- **Reach at-risk population**
- **Teach cognitive and noncognitive skills**
- **Bring to scale**

# Moving Forward

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## Broad-based measures

- **School readiness awareness campaign**
- **Family-friendly work environments**
- **Early childhood screening**
- **Incentives to improve child care quality**
- **Access to preschool**

# Moving Forward

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## For children at risk

- **Prenatal/early infant home visits for at-risk mothers**
- **Connect child protection system with early childhood intervention programs**
- **Provide scholarships for at-risk children to attend high-quality ECD program**

# **Market-Oriented ECD Proposal**

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- **Provide scholarships and mentors to parents with at-risk children.**
- **Scholarships designed to reward performance and encourage high-quality and innovative practices.**
- **Financed by endowed fund.**

**[minneapolisfed.org](http://minneapolisfed.org)**